

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of : **BOX PATENT APPLICATION**

Claire GIARD-BLANCHARD et al. : Examiner: Unassigned

Serial No.: Unassigned : Group Art Unit: Unassigned

Filed: Herewith :

For: **ORGANIC EMULSION-BREAKING FORMULA AND ITS USE IN TREATING  
WELL BORES DRILLED IN OIL-BASE MUD**

**PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, Applicants wish to amend the above-identified application as indicated below:

**IN THE CLAIMS**

Please amend the claims as follows:

1. (Amended) An organic emulsion-breaking formulation, comprising a mixture of an organic base and:

as an emulsion-breaking agent, at least one constituent selected from (A) non-ionic amphiphilic compositions obtained by reacting at least one polymerized vegetable oil with at least one amino-alcohol, and (B) alkyl esters of fatty acids derived from natural, vegetable or animal oils;

optionally, at least one wetting agent selected from anionic surfactants;

and optionally, at least one solvent;

2. (Amended) A formulation according to claim 1, characterized in that:  
said emulsion-breaking agent is present in a proportion of 0.5% to 100% by weight of pure surfactant; and

said wetting agent is present and in a proportion of up to 50% by weight of pure surfactant;

said solvent is present and in a proportion of up to 99.5% by weight;

the mixture having a concentration of pure emulsion-breaking and the pure surfactant of 0.01 to 50 g per 100 ml of said organic base.

3. (Amended) A formulation according to claim 1, wherein said emulsion-breaking agent comprises at least one non-ionic amphiphilic composition obtained by reacting polymerized linseed oil with diethanolamine.

4. (Amended) A formulation according to claim 1, wherein said emulsion-breaking agent comprises at least a mixture of methyl esters of rapeseed oil.

5. (Amended) A formulation according to claim 1, wherein said wetting agent is present and is a sodium dialkyl sulfosuccinate.

6. (Amended) A formulation according to claim 1, wherein said solvent is present and selected from petroleum cuts, alcohols and hydroalcoholic mixtures, alkyl esters of long chain carboxylic acids and compositions of alkyl esters of fatty acids derived from vegetable oils.

7. (Amended) A formula according to claim 2, wherein said solvent is a mixture of methyl esters of rapeseed oil.

8. (Amended) A formula according to claim 1, wherein said organic base is a mineral oil or an oil of vegetable origin.

Please cancel claim 9 without prejudice or disclaimer.

10. (Amended) A formulation according to claim 8, wherein said oil is of vegetable origin and is a mixture of methyl esters of rapeseed oil.

11. (Amended) A formulation according to claim 1, wherein when the formulation is used to treat well bores drilled in oil-base mud, the organic base of said formulation is an oil identical to that of the mud.

12. (Amended) A formulation according to claim 1, further comprising 1% to 10% by weight with respect to the organic base of at least one viscosifying agent for the organic medium and a quantity, determined according to the specific density required for the fluid, of at least one weighting agent.

13. (Amended) A formulation according to claim 12, characterized in that the viscosifying agent comprises at least one cross-linked organosoluble acrylic resin.

14. (Amended) A formulation according to claim 12, wherein said weighting agent comprises a mass of particulate calcium carbonate.

15. (Amended) A formulation according to claim 12, further comprising up to 5% by weight with respect to the organic base, of at least one dispersing agent.

16. (Amended) A formulation according to claim 15, wherein said dispersing agent is selected from hydroxy-functionalized carboxylic acid esters the functional groups of which have affinities with the pigments used in paint formulations.

17. (Amended) In the treatment of a well bore drilled in an oil-base mud, the step of adding an emulsion-breaking formulation in an organic base according to claim 1.

18. (Amended) In any step of drilling or treating a well that requires a fluid having the same density as the mud used to drill the well bore, the step of adding an emulsion-breaking formulation in an organic base according to claim 12.

Please add the following new claims:

--19. A method of breaking an emulsion comprising adding to the emulsion a composition according to claim 1.

20. A formulation according to claim 15, comprising up to 2% by weight of said at least one dispersing agent.--

### **REMARKS**

A principle purpose of this Preliminary Amendment is to facilitate examination and to reduce fees by eliminating multiply dependent claims, Applicants reserving the right to reintroduce claims to combined cancelled subject matter.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version With Markings To Show Changes Made**".

Respectfully submitted,



I. William Millen (Reg. No. 19,544)  
Attorney for Applicants

MILLEN, WHITE, ZELANO & BRANIGAN, P. C.  
2200 Clarendon Boulevard, Suite 1400  
Arlington, Virginia 22201  
(703)812-5325  
Internet address: millen@mwzb.com

Filed: 11-21-01

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## Version With Markings To Show Changes Made

### IN THE CLAIMS

The claims have been amended as follows:

1. (Amended) An organic emulsion-breaking formulation, ~~characterized in that it comprises~~ comprising a mixture of an organic base and:

- as ~~the an~~ emulsion-breaking agent, at least one constituent selected from (A) non-ionic amphiphilic compositions obtained by reacting at least one polymerized vegetable oil with at least one amino-alcohol, and (B) alkyl esters of fatty acids derived from natural, vegetable or animal oils;

- optionally, at least one wetting agent selected from anionic surfactants;

- and optionally, at least one solvent;

~~the assembly being as a mixture in an organic base.~~

2. (Amended) A formulation according to claim 1, characterized in that:

- said emulsion-breaking agent is present in a proportion of 0.5% to 100% by weight of pure surfactant; and

- said wetting agent is present and in a proportion of up to 50% by weight of pure surfactant;

- said solvent is present and in a proportion of up to 99.5% by weight;

~~the ensemble mixture~~ having a concentration of pure ~~active-matter~~ emulsion-breaking and the pure surfactant of 0.01 to 50 g per 100 ml of said organic base.

3. (Amended) A formulation according to claim 1 ~~or 2, characterized in that~~ , wherein said emulsion-breaking agent comprises at least one non-ionic amphiphilic composition obtained by reacting polymerized linseed oil with diethanolamine.

4. (Amended) A formulation according to ~~any one of claims 1 to 3; claim 1,~~ wherein said emulsion-breaking agent comprises at least a mixture of methyl esters of rapeseed oil.

5. (Amended) A formulation according to ~~any one of claims 1 to 4; claim 1,~~ wherein said wetting agent is present and is a sodium dialkyl sulfosuccinate.

6. (Amended) A formulation according to ~~any one of claims 1 to 5~~, characterized in that claim 1, wherein said solvent is present and selected from petroleum cuts, alcohols and hydroalcoholic mixtures, alkyl esters of long chain carboxylic acids and compositions of alkyl esters of fatty acids derived from vegetable oils.

7. (Amended) A formula according to ~~any one of claims 1 to 6~~, characterized in that claim 2, wherein said solvent is a mixture of methyl esters of rapeseed oil.

8. (Amended) A formula according to ~~any one of claims 1 to 7~~, characterized in that claim 1, wherein said organic base is a mineral oil or an oil of vegetable origin.

Claim 9 has been cancelled.

10. (Amended) A formulation according to claim 8, ~~or claim 9~~, characterized in that wherein said oil is of vegetable origin and is a mixture of methyl esters of rapeseed oil.

11. (Amended) A formulation according to ~~any one of claims 1 to 10~~, characterized in that; claim 1, wherein when the formulation is used to treat well bores drilled in oil-base mud, the organic base of said formulation is an oil identical to that of the mud.

12. (Amended) A formulation according to ~~any one of claims 1 to 11~~, characterized in that it claim 1, further ~~comprises~~ comprising 1% to 10% by weight with respect to the organic base of at least one viscosifying agent for the organic medium and a quantity, determined according to the specific density required for the fluid, of at least one weighting agent.

13. (Amended) A formulation according to claim 12, characterized in that the viscosifying agent ~~is selected from~~ comprises at least one cross-linked organosoluble acrylic resins that are cross-linked to a greater or lesser extent resin.

14. (Amended) A formulation according to claim 12 ~~or claim 13~~, characterized in that; wherein said weighting agent ~~is selected from~~ comprises a mass of particulate calcium carbonates carbonate of different grain sizes.

15. (Amended) A formulation according to ~~any one of claims 12 to 14,~~ characterized in that it claim 12, further comprises ~~comprising~~ up to 5% preferably up to 2% ~~by weight~~, with respect to the organic base, of at least one dispersing agent.

16. (Amended) A formulation according to claim 15, ~~characterized in that~~ wherein said dispersing agent is selected from hydroxy-functionalized carboxylic acid esters the functional groups of which have affinities with the pigments used in paint formulations.

17. (Amended) ~~Use of an emulsion-breaking formulation in an organic base according to any one of claims 1 to 16, for~~ In the treatment of a well bore drilled in an oil-base mud, ~~the step of adding an emulsion-breaking formulation in an organic base according to claim~~ 1.

18. (Amended) The use of an emulsion-breaking formulation in an organic base according to any one of claims 12 to 16 In any step of drilling or treating a well phase that requires a fluid having the same density as the mud used to drill the well bore, the step of adding an emulsion-breaking formulation in an organic base according to claim 12.

Claims 19 and 20 have been added.